Verbal teacher communication and teacher-class interpersonal relationship

Nienke Woldman, Utrecht University, 3014983

First Assessor: Prof. dr. M. Brekelmans, Second Assessor: Dr. F.J. Prins

6 July 2010

Abstract

This study aimed to discover linguistic catgories in verbal teacher communication possibly related to the interpersonal teacher-class relationship. In a literature study 7 conceptual categories were identified (Part I). In a case study these categories were tested (Part II). Data of two extreme cases selected on their 'interpersonal teacher profiles' were analysed to examine in which categories both teachers differed and which categories were related with the interpersonal teacher-class relationship. Much differences were found between the two cases. However, only 'Focus' and sub-categories 'Edifications' and 'Questions' seemed to be related with the interpersonal teacher-class relationship. Additionally, the amount of utterances seemed to be related. To conclude with, the sub-category 'Statement' (speech function) seemed comparable with the automatically coded 'Statement'(Dialogue Act) by MEPA. Further research is required to complete the categories with lexical markers and to examine more detailed which other categories were associated with the Dialogue Acts.

Keywords: verbal teacher communication, interpersonal teacher-class relationship, lexical markers, Discourse Analysis, Dialogue Acts, MEPA, State Space Grids.

1.   Introduction

In the last decennia many studies are conducted to examine the interpersonal relationship between teacher and class, to benefit the understanding of how and when the relationship between the teacher and the class arises, how this relationship develops and what impact it has on students. For example, some studies have shown that students' wellbeing and motivation is influenced by the way they perceive interpersonal teacher behaviour (e.g. van Petegem, Aelterman, Rosseel, & Creemers, 2007; van Petegem, Aelterman, van Keer, & Rosseel, 2008). Others have shown that the educational effectiveness in teacher-class relationship is influenced by the interpersonal relationship, as perceived by students (den Brok, Brekelmans, & Wubbels, 2004).

The interpersonal relationship between a teacher and class is influenced predominantly by their communication. This assumption seems logical, observing that a learning process – as in a class situation – exists of the communication between students and between students and their teacher. In the last decennia, therefore, also much research has been conducted to investigate which role communication or language has in the interpersonal relationship between teacher and class. It is, for example, known that there exist different language styles, assigned to the differences between men and women. A more feminine language style is judged more social warmth, while a more masculine language style is seen as more competent (Quina et al., 1987). In addition, it is known that language is always biased implicitly, due to how people perceive the interpersonal relationship they have with another person. (Reitsma- van Rooijen, Semin, & van Leeuwen, 2007).

Within communication the nonverbal part determines predominantly the interpersonal relationship (e.g. Wang, 2009). Accordingly, in research to the influence of communication on the interpersonal teacher-class relationship the focus is mainly on this nonverbal part of the communication. Nevertheless, by focusing solely on the nonverbal part, we cannot completely understand the influence of language on the interpersonal teacher-class relationship. The verbal part of a message is also an important aspect. Thompson and Muntigl (2008), for example, state that the way speakers choose to express their meanings has a fundamental effect on the communication between people. Hence, for deeper understanding the interpersonal teacher communication this study pays attention to the verbal part of teacher utterances.

In the domain of interpersonal relationships related to language, in the past much research is conducted to study the verbal part of a *description* of the interpersonal perception and relationship (e.g. De Raad, 1985, 1995, 1999; Semin, & Fiedler, 1988,1989). The purpose of this study, however, is to examine if verbal teacher communication and the interpersonal teacher-class relationship can be related, discovered in the *direct* communication between them. This means the communication between teacher and class that occurs in the classroom during a lesson.

Accordingly, this study will contribute to research on the interpersonal relationship between teacher and class and fills a gap in science, by discovering categories to analyse verbal teacher communication interpersonally. To achieve this purpose, linguistic studies and studies on interpersonal behaviour are combined. In this way, it is investigated how verbal teacher communication is related to the interpersonal teacher-class relationship.

This study will function as a first step in conducting research to relate verbal teacher communication and the Model of Interpersonal Teacher Behaviour. When knowing how and in which linguistic category this relationship exists, it is possible to investigate which influence verbal teacher communication has on the way students perceive their teacher interpersonally.

In this introduction, first, attention is paid to explain key words in this study. Afterwards it is explained how this study is constructed.

1.1   Interpersonal teacher-class relationship

In this study, interpersonal relationship is defined as the pattern of communication between a teacher and class based on the systems approach by Watzlawick (Wubbels, & Brekelmans, 2005). The systems approach focuses on communication from a pragmatic viewpoint to see what effect an action of a person has on the other (Wubbels et al., 2005). This viewpoint implies

that nonverbal aspects of the action have to be taken into account to measure the effect. The current study, however, examines the interpersonal teacher-class relationship, specifically in *verbal* communication.

In the context of this study, interpersonal teacher communication is defined in terms of Influence and Proximity based on the Model of Interpersonal Teacher Behaviour (MITB, Wubbels, Creton, & Hooymayers, 1985, as cited in den Brok et al., 2004). The MITB-model is a translation of the Leary Model for interpersonal relationships in general (Leary, 1957, as cited in den Brok et al., 2004) to the educational context in order to describe student perceptions of the behaviour of their teacher (den Brok, et al., 2004). The Leary Model is one of the circumplex models that has been developed in the last fifty years to describe interpersonal relationships (Mainhard, 2009). These models were based on interpersonal theory which assumes that the presentation of a relationship can be reduced to two dimensions, namely a dimension referring to dominance and submission, and a dimension of hostility and affection (Fiske, Cuddy, & Glick, 2007). In the MITB-model, the dimensions are called the Influence-dimension and the Proximity-dimension. Mainhard describes the dimensions as follows:

> *"The Influence dimension describes the extent to which a particular teacher is in charge of what happens in the class; the Proximity dimension describes the emotional distance between teacher and class" (Mainhard, 2009, p.22).*
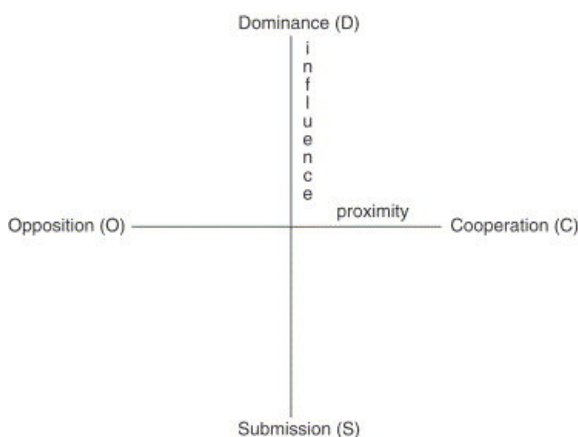
In Figure 1 the MITB-model is presented.

Figure 1. The Model of Interpersonal Teacher Behaviour, with its two dimensions (Wubbels, & Brekelmans, 2005).

With the interpersonal dimensions as shown in Figure 1 it is possible to determine the status a person has relative to others and to promote the interpersonal ties (Mainhard, 2009).

1.2   Teacher-class communication

To study verbal teacher communication, the complete teacher-class communication is analysed. Communication, therefore, is defined as everything that occurs within the presence of the sender and receiver of a message, a definition by Watzlawick, Beavin and Jackson (1967, as cited in Schiffrin, 1987). This broad definition involves every verbal utterance in the communication between a teacher and the class. Moreover, it effectively implies that language is always communicative, either it is intended to be directed towards the receiver of a message, and/or because it is attended by the recipient (Schiffrin, 1987).

Within teacher-class communication, this study focuses on the verbal part of communication produced by the teacher, now defined as 'verbal teacher communication'. To analyse the verbal teacher communication, first, interpersonal categories in verbal teacher communication need to be identified. In addition, within the categories lexical markers must be identified, to

define each category. Subsequently, it need to be measured if the verbal teacher communication and the interpersonal teacher-class relationship are related.

In this study 'lexical markers' is defined by Mange, Lepastourel and Georget (2009). They suggest that specific words exist in communication between two people that implicitly mark this communication such a way that it influences the perceived relationship among them and the way the recipient of the message reacts to the speaker (Mange et al., 2009).

1.3 Linguistic context

The current study fits to one of the linguistic research areas, namely the semantics. Semantics is about the meaning of an expression (Houtkoop, & Koole, 2005). One aspect of the semantics is to discover which words in a utterance make the difference to the meaning of the speaker and the interpretation of the message by the hearer (Houtkoop & Koole, 2005).

On the other hand, this study is located in communication studies. John Austin, one of the most important language philosophers, gives a classification in communication perspective, for a message people give (Houtkoop & Koole, 2005). Austin stated that when someone speaks, someone actually does simultaneously three different language-activities in one time:

1) One gives a locutionary act, which stands for the stream of words and sentences itself;

2) One gives a illocutionary act, which stands for the intention a speaker has with the words and sentences he expresses, the communicative purpose of the stream words; and

3) One gives a perlocutionary act, which stands for what the speaker achieves with a message, it is the actual result of the expression. For example, when the speaker want to warn someone and says 'watch out, a dog!'. The result might be that hearer reacts by scaring of this expression. This was, however, not what the speaker intended to do (Houtkoop, & Koole, 2005).

To study verbal teacher communication interpersonally, it should be measured on the perlocutionary level. This is the level in which the perception and reaction of the recipient is implied, according to Austin's linguistic action theory. Before analysing this perlocutionary act, however, verbal teacher utterances should be analysed on the basis of found categories. This analysis is located on locutionary level because the pure stream of words is coded (without any interpretation).

Beside Austin's classification, in linguistic studies there exist several other classifications (or levels) to analyse verbal language. For instance, the level of morphemes, phonemes, words and sentences or the situation meaning (Semin, 2008). In addition, language can be differentiated in units, like temporal or functional units (Schiffrin, 1987). The current study includes an analysis on the level of words and sentences, and consequently, focuses on functional rather than temporal units. An 'utterance' (a word or a sentence) matches the locutionary level by Austin. And more importantly, it is assumed to be the most relevant chunk to study (Houtkoop, & Koole, 2005). Additionally, differentiating between functional units allows for analysing how people react to each other and how an utterance is related to lexical and grammatical items involved in that utterance (Sinclair & Coulthard, as cited in Coulthard, & Montgomery, 1981).

1.4 Discourse Analysis

Both the defined level and unit for studying verbal teacher communication fit well to a method often used in communication studies: Discourse Analysis (Coulthard, & Montgomery, 1981; Schiffrin, 1987; Houtkoop, & Koole, 2005). Discourse Analysis is an analytic approximation developed by Sinclair, Coulthard and Brazil (Houtkoop, & Koole, 2005). Beside the mentioned level and unit for studying communication (discourse), Discourse Analysis (DA) has other characteristics which fit well to the current study. DA, for instance, states that language cannot be seen separately from the functions and purposes it has (Brown, & Yule, as cited in Schiffrin, 1987), and importantly: DA originally focused on communication in education with the consequence that terminology is strongly related to education.

One important assumption by DA for this study is the assumption that teacher-student communication has a cyclical pattern. According to DA, each dialogue between teacher and class exists of moves and exchanges. These units have a central role in teacher-class communication (Houtkoop, & Koole, 2005). An exchange includes more or less moves in the pattern of T-P-T: two (T) teacher moves (a splitted utterance) and one student (P) move (Bellack, as cited in Coulthard, & Montgomery, 1981).

Because of all these characteristics and the mentioned assumption about teacher-class communication DA functions in this study as a main theory used to discover categories for analysing verbal teacher communication interpersonally.

1.5 Research question

In this study, therefore, the following research questions will be answered:

1) *What are possible relevant categories to analyse verbal teacher communication interpersonally?*
    a) *More specifically, what lexical markers can be identified within these categories that define these categories?*
2) *To what extend can the discovered categories in verbal teacher communication be related to the interpersonal teacher-class relationship?*

The present study contains two parts. The first part includes a literature study to identify categories to study verbal teacher communication interpersonally. In the second part of the study the discovered categories are tested.

2.   Part I: literature study

2.1   Method part I

2.1.1 Design and procedure

The first part of this study encompassed a literature study. This part was prerequisite for completing the second part of the study (see Paragraph 3), in which the results of the literature study were tested. This literature study aimed to find categories to analyse verbal teacher communication interpersonally. Therefore, relevant and useful theories were explored on the level of words and sentences. However, this did not mean that an overview was presented with the complete set of available literature in the research domain involved. It rather meant that a few initially relevant and useful articles were used to draw some conclusions and present the found categories.

For completing the literature study, the snowballing method (Baarda & de Goede, 2006) was used. The procedure of this part of the study is explained in Paragraph 2.1.2.

2.1.2 Participants and Instruments

The literature study contained different stages. Passing through all the stages allowed for presenting categories in teacher communication that, perhaps, can be related with the interpersonal teacher-class relationship. The stages were complementary, and therefore, the procedure of this first part of the study was iterative. This resulted in an interactive process of finding relevant literature, organizing and relating found categories and again searched for relevant literature. Below the different stages are explained.

First of all, the domain of Discourse Analysis and its relationship with interpersonal communication was explored. This stage involved logically the exploration of the research domain of communication studies and semantics, since Discourse Analysis had its origin in these domains.

A book that had a central function at this stage was the book "Discourse Markers" (Schiffrin, 1987), which concerned the origin and the method of and specific focuses in Discourse Analysis (DA). Schiffrin's book (1987) served as a starting

point for searching information on DA, because it gave a detailed description of different aspects of DA. The exploration of DA combined with 'interpersonal perception' constituted the first 'snowball'.

Second, the domain of interpersonal relationships was explored from the perspective of social behavioural science. The search for relevant theories about the influence of (verbal) communication on interpersonal relationship, started with a few articles of professor dr. Semin (and colleagues). In the last decennia, Semin conducted different studies to investigate the role of verbal communication on interpersonal perception, which initially seemed useful for this study.

Semin and colleagues discovered, for example, the existence of linguistic intergroup bias (LIB, Semin, Gil de Montes, & Valencia, 2003). LIB is the term given to proven systematic differences in language use of people when they talk about positive or negative events in combination with speech about members of the in-group or the out-group. It was stated that positive behaviours of an in-group member and negative behaviour of an out-group member were described with abstract predicates, whereas positive out-group behaviour and negative in-group behaviour were described with concrete predicates (Semin et al., 2003).

In addition, Semin developed the Linguistic Category Model (LCM-model, Semin, 2008). The LCM-model was developed to analyse linguistic behaviour (in this study referred to as 'communication') in the interpersonal perspective. The model distinguished four linguistic categories, which hypothetically showed if people talked in concrete or abstract terms and if they felt proximity or interpersonal distance to the receiver of their message (Semin, 2008).

However, the mentioned studies by Semin mainly focussed on the verbal *description* of interpersonal perception, rather than focusing on the direct communication between people. Consequently, these studies seemed not as usable as thought previously for analysing verbal teacher communication. Accordingly, further research is needed into the interpersonal relationship domain, still based on Semin's studies. Therefore, this search constituted the second 'snowball'.

Both snowball-searches started with searching for most recent studies. Then, there was searched for studies conducted in the recent or further past.

To write down the results of the literature study, recommendations of Bem (1995) for writing a review article were used. Following these recommendations, in Paragraph 2.2.1 first the current state of research was presented and contradictions and similarities in the literature were outlined. Subsequently, in Paragraph 2.2.2 gaps to fill were presented by introducing conceptual categories for analysing verbal teacher communication interpersonally.

2.2 Results Part I

2.2.1 Description of possible lexical markers and relevant theories

It should be noticed that there is a paucity of literature regarding verbal communication associated with interpersonal relationship measured in *direct* communication. The few studies and theories that are available are discussed below. The first study dates from 2008, while the second study dates from 1978. This paucity of literature emphasizes again the necessity to better discover this research area.

Both studies discussed below start their theory from Discourse Analysis and consider the 'utterance' to be the most relevant unit to study. Moreover, both studies show a interpersonal classification concentrated on Lexicogrammatical Functions of utterances. These characteristics make both studies relevant for the development of an interpersonal observation schedule to examine verbal teacher communication. Together the theories give a clear framework of interpersonal loaded units in utterances.

Systematic Functional Linguistics by Thompson and Muntigl (2008)
The first study is written by Thompson and Muntigl (2008). They describe Systemic Functional Linguistics (SFL) as an appropriate method to say sensible and useful things about any text, oral and written (Thompson, & Muntigl, 2008). Thompson and Muntigl describe classifications for analysing the functional meaning as well as the structure of communication, focused on interpersonal loaded aspects in verbal communication. They do so, because of the statement that

there is a kind of tension between the functional meaning of the utterance and the structures used to express the meaning of this utterance.

First of all, Thompson and Muntigl give a detailed description of Lexicogrammatical Functions that perform interpersonally, as shown in the first two columns of Table 1.

Table 1

Indication of word categories by Thompson and Muntigl (2008) which are interpersonal loaded.

Lexicogrammatical Functions	Sub Lexicogrammatical Functions	Associated Speech Functions	Possible speech acts
Imperative		Commands	Request
		Questions	
		Offer	Promise
Indicative	Declarative	Statement	Contradiction
		Offer	Promise
		Commands?	Request
		Questions?	
	Interrogative	Questions	
		Offer	Promise
		Commands?	Request

As presented in Table 1, according to Thompson and Muntigl, there exist four Speech Functions within the Lexicogrammatical Functions, that every single utterance might have:

• A Statement (which means: you *give* information);

• A Question (which means: you *demand* information);

• A Command (which means: you *demand* goods and services); or

• An Offer (which means: you *give* goods and services).

Again, as shown in Table 1, within the Speech Functions there exist sub-categories for example a Contradiction (a kind of a Statement) a Request (a kind of command) or a Promise (a kind of an offer).

Logically, declarative utterances predominantly realise Statements while interrogative utterances realise Questions and imperatives realise Commands. However, according to Thompson and Muntigl, this distinction is not that clear as it seems. In Table 1 therefore, all of mentioned categories are summarised, provided with the possible Speech Functions and speech acts per Lexicogrammatical Function.

In communication it often happens that the producer of an utterance expresses this utterances in another Lexicogrammatical Function than it strictly should be (Thompson, & Muntigl, 2008). For example, when you ask someone to pass the book on the table, and do this in the interrogative form ('can you please pass me the book'). In fact, this utterance is a Request – a kind of Command. Nevertheless, by using the interrogative form, you show politeness to the receiver of the message. Another example of this situation is when you ask someone a question to ask him/her to confirm something. In this case one might say, for example, 'so, that is the worst'. According to Thompson and Muntigl, this utterance actually is a Statement (a declarative utterance), but it is meant as a Question: 'do you confirm that this is the worst?'.

These examples show that the receiver might interpret the utterance differently, by assuming more opportunities to answer (positively and negatively) or, instead, by assuming the sender of the message as being more authoritative than one self. Consequently, the Lexicogrammatical Function in which an utterance is expressed defines the way the receiver interprets the utterance interpersonally.

Beside the mentioned Lexicogrammatical Function and Speech Functions, Thompson and Muntigl explain that 'modality' plays a crucial role in the perceived interpersonal relationship in direct communication. Modality involve modal operators, like:

- Lexical verbs (e.g. suggest);
- Adjectives (e.g. probable);
- Adjuncts (e.g. certainly);
- Nominalizations (e.g. possibility);
- Clauses (e.g. it is possible that); and
- Other less direct wordings (Thompson & Muntigl, 2008).

All of these operators determine the way a receiver of the utterance feels commitment and responsibility to the producer of the utterance. Thompson and Muntigl divide modality into two semantic categories: propositions and proposals. Proposals involve "utterances which centre on the exchange of *information* [italics added]", while propositions involve "utterances which centre on the exchange of *goods-and- services* [italics added]" (Thompson & Muntigl, 2008).

Proposals and propositions determine the amount of commitment and responsibility a receiver of the utterance feels. Consequently, these categories fit very well to the Influence (responsibility) and Proximity (commitment) dimension of the Model of Interpersonal Teacher communication (MITB, Wubbels et al., 1985, as cited in den Brok et al., 2004), described in Paragraph 1.1. In Table 2 the modality categories by Thompson and Muntigl are shown, accommodated with example utterances.

Table 2

Modality theory of Thompson and Muntigl (2008, p.111). The two semantic categories of modality (propositions and proposals) accommodated with example utterances and the amount of commitment and responsibility involved in these utterances.

		Propositions		Proposals	
		Probability	Usuality	Obligation (of the addressee)	Inclination (of the speaker)
Commitment	High	*He must be*	*He is always*	*You must*	*I am keen on*
	Medium	*He will be*	*He is usually*	*You could*	*I am determined to*
	Low	*He might be*	*He is sometimes*	*You can*	*I am willing to*
Responsibility	Objective	*It is likely that*	*It is usual for*	*It is essential to*	*-*
		It is maybe the case that	*It is usually*	*It is supposed to*	*I am willing to*
		It may/might be	*It will be*	*It must*	*I will*
	Subjective	*I think that*	*-*	*It is expected to*	*I volunteer to*

In their article Thompson and Muntigl refer frequently to a doctor-patient relationship. Nevertheless, it is interesting to examine what happens in teacher-class communication. Hence, their theory offers a first useful frame for analysing verbal teacher communication interpersonally.

Verbal Response Modes by W.B. Stiles (1978)

The upper described theory of Thompson and Muntigl (2008) is already reflected in a study by Stiles (1978). Thirty two years ago Stiles also developed a systematic theoretical basis for making interpersonal scoring decisions in direct communication (Stiles, 1978). He called this system 'Verbal Response Modes' containing eight different categories each

having a distinctive grammatical form as well as a distinctive intent (Stiles, 1978). Stiles notes that a Verbal Response Mode reflects many important aspects of interpersonal relationships. His taxonomy of eight different mode categories is based on three dichotomous principles of classification: 'focus', 'source of experience' and 'frame of reference'. Each of the principles can have the value 'speaker' or 'other' (Stiles, 1978). In Table 4, the eight mode categories are presented, provided with the three underlying principles.

Table 4

Eight mode categories (rows), organized by Stiles (1978), provided with three underlying principles (columns).

Focus	Frame of reference	Source of experience	
		Speaker	**Other**
Speaker	**Speaker**	Disclosure (D)	Question (Q)
	Other	Edification (E)	Acknowledgement (K)
Other	**Speaker**	Advisement (A)	Interpretation (I)
	Other	Confirmation (C)	Reflection (R)

Each of the Verbal Response Modes has its own characteristics based on the mentioned principles. In addition to Table 4, these characteristics are explained in Table 5.

As shown in Table 4 and 5, the included principles in Stiles' taxonomy show why the Verbal Response Modes describe interpersonal micro relationships. The values 'speaker' and 'other' indicate whether the interest is in the speaker's or the other's experience, whether the speaker's viewpoint or the other's is used and whether knowledge of the other is presumed or not (Stiles, 1978).

Nevertheless, in Stiles' opinion it is not always enough to score an utterance in just one Verbal Response Mode (called 'pure modes' by Stiles, 1978). Sometimes it is possible to score more categories to an utterance in the case the intent and form of the utterance differ. This statement corresponds to findings by Thompson and Muntigl (2008) and, by Stiles (1978) these utterances are called 'mixed modes'. To illustrate the mixed mode phenomenon, Stiles gives the example : "Would you close the door?" This utterance is, evidently, scored as a Question (Q) in form, but, in fact, has the intent of an Advisement (A): 'close the door'. In the case of mixed modes, Stiles scores this utterance in both categories which results in the scoring 'Q(A)' and means 'Question in service of an Advisement' (Stiles, 1978).

Stiles examined that the average pair wise agreement among independent coders is 85 percent for form and 75 percent for intent. It appeared that Cohen's Kappa differed for each of the eight categories and for different situations. In professor-student communication the reliability for edification was relatively high (.7 to .8), where the reliability for reflection was low (.4 to .6). Still, a reliable coding system is needed.

As a final point, the Stiles' taxonomy seems to be a useful tool to analyse verbal teacher communication interpersonally, in direct communication. The taxonomy offers a detailed method for scoring utterances, and, because of the hierarchy in the system this precision of measurement extends to all levels (Stiles, 1978).

Combining the studies of Stiles (1978) and Thompson and Muntigl (2008), it can be concluded it certainly is possible to analyse verbal teacher communication interpersonally in direct verbal communication. Despite the scarcity of literature, both referred studies show useful categories to analyse verbal teacher communication. In addition to these important studies, a few other studies are discussed. These studies include important information, even though they do not primarily focus on *direct* verbal communication.

Table 5

Verbal Response Modes provided with the summarised characteristics of each mode by Stiles (1978).

Verbal response mode (VRM)	Principles for making scoring decisions			Example, given by Stiles (1978)
	Source of experience:	Focuses on (speaker or the other):	Lexicogrammatical Function and personal pronoun:	
Disclosure (D)	Speakers experience	Focus on the speaker. Reveals something about the speaker's own internal experience, without necessarily presuming knowledge of the other.	First person singular (I) or plural (we), where the other is not the referent.	"I'd really talk about my feelings about being an experimental subject" [the other is not included in the sentence, weather the speaker is included]
Question (Q)	Others experience	Focus on the speaker. In a question, the speaker attempts to fill a gap in his/her own frame of reference, with information supplied by the other.	Interrogative, with subject-verb order and typical interrogative words such as *who, what, when, where, why, how.*	"Where is the book?"
Edification (E)	Speakers experience	Focus on the speaker. Edifications express objective information.	Declarative, Third person (he, she, it, they or a noun).	"The book is on the Table". [the book is the third person]
Acknowledgement (K)	Others experience	Focus on the speaker. In general, acknowledgements convey reception of or receptiveness to communication from the other. Also included in this category: nonlexical utterances, content-free lexical utterances and terms of address and salutation.		"Hm-hm" "Hello" "Yes sir"

Advisement (A)	Speakers experience	Focus on the other. The speaker attempts to impose his experience on the other by guiding the other's behaviour. Included in this category: advice, command, suggestion, instruction, permission, and prohibition.	Imperative, subject omitted but understood, or second person (you) + verb of permission, prohibition or obligation.	"You should clean up your room." "Tell me more about it."
Interpretation (I)	Others experience	Focus on the other. The speaker offers an explanation to the other to understand his own experience or behaviour. Also included in this category: judgements or evaluations of other's experience or behaviour.	Second person (you) + verb that describes an attribute, condition or ability of the other.	"You are right." " You are a bit modest in how you appraised yourself."
Confirmation (C)	Speakers experience	Focus on the other. The speaker presumes a common frame of reference in order to compare his own experience with that of the other. Included in this category: expressions of joint thought/action, agreement, and similarity of opinion/experience. Also included: disagreements and expressions of dissimilarity.	First person plural (we), or there is a compound subject that includes both speaker and the other ('you and I').	"We disagree about that."
Reflection (R)	Others experience	Focus on the other. The speaker attempts to express the other's experience in a way that is compatible with the other's view. An utterance need not use the other's words, nor mist it be accurate, to be scored as reflection, so long as the implied standard of accuracy is the other's frame of reference.	Second person + verb that describes an internal experience/action of the other.	"You don't think this is really an integral part of the course." " You like your job."

Note. All focus-on-the-other mode forms have subjects that include the other as a referent (Stiles, 1978).

Interpersonal verbs

As already mentioned in Paragraph 1, in the past less research has been conducted to study interpersonal relationship in the *direct* communication between two people and certainly not between teacher and class. Rather, much research is conducted to study the verbal part of an utterance for *describing* the interpersonal relationship. The latter, however, might still be helpful and relevant for analysing verbal teacher communication. The points made in these studies, namely, can be tested to see if the discovered interpersonally loaded categories in the description of interpersonal relationship also exist in the direct communication.

It is striking to note that many studies to communication associated with description of interpersonal relationships are specifically focused on interpersonal *verbs*. For example, studies by De Raad (1995; 1999), who reveals a list of interpersonal verbs, reflecting the dimensions of the interpersonal circumplex model, in this study called Dominance and Nurturance (De Raad, 1999). De Raad states that it might well be that interpersonal communication is better revealed by one word category than by another. Consequential, De Raad (1995; 1999) focuses on discovering interpersonal *verbs* by stating that the advantage of using verbs as trait descriptors is that verbs are more concrete than adjectives. Therefore, verbs have a better observable referent than adjectives (De Raad, 1999). It is interesting to examine if verbs have this characteristic in direct communication as well.

Also Semin and Fiedler (1988; 1989) discuss interpersonal verbs as descriptors of interpersonal communication. Semin and Fiedler (1988) distinguish four classes of verbs and adjectives, together also called 'interpersonal terms' (Semin, & Fiedler, 1989). This classification is, just like the classification of interpersonal verbs by De Raad (1995; 1999), developed to describe interpersonal communication and relationship. A particular aspect in this classification by Semin and Fiedler is the statement about the amount of concreteness. They state that the more abstract a description the more revealing it is about a person (Semin, & Fiedler, 1989). Of course, a description about a person is differently interpersonal loaded than a direct communication. Nevertheless, hypothetically, it is possible that also in direct communication the level of concreteness or abstractness in lexical markers (verbs, in this case verbs) make the difference in the perceived interpersonal relationship. In Table 6 a summary of the classification by Semin and Fiedler (1989) is presented.

Table 6

Summarized version of the Fourfold classification of linguistic terms in the interpersonal domain by Semin and Fiedler (1989).

Concrete/abstract	Category	Examples
Concrete (situation bounded)	1. Descriptive Action Verb (also called DAV)	Call
		Meet
	2. Interpretive Action Verb (also called IAV)	Help
		Cheat
	3. State Verbs (also called SV)	Admire
		Hate
Abstract (high generalizability)	4. Adjectives (also called ADJ)	Honest
		Helpful

Another study that seems interesting, although it is about the verbal description of interpersonal relationship, is the study about the Linguistic Intergroup Bias (LIB) by Reitsma-van Rooijen, Semin and Van Leeuwen (2007) mentioned in Paragraph 2.1.2. The important issue addressed in this study is the communicative impact of biased language use. Reitsma-van Rooijen and colleagues (2007) examined that receiving linguistically biased messages in interpersonal communication influences the perceived interpersonal distance to the sender of the message. On the one hand, they assert that positive

abstract utterances lead to more proximity to the sender compared to a positive concrete utterances. On the other hand, they assert that a negative concrete utterance, instead, leads to more distance compared with a negative abstract utterance (Reitsma-van Rooijen, et al., 2007). In positive and negative utterances, thus, it works the other way around.

It is interesting to examine if the negativity/positivity and concreteness/abstractness also determines the interpersonal distance in direct communication. This, however, might be examined afterwards: when the videotapes are watched and matched with the State Space Grids (see for description, Paragraph 3.1.2). Then it is possible to examine if this characteristic also works this way in the interpersonal teacher-class relationship.

In addition, Reitsma-van Rooijen and colleagues (2007) declare that their stimulus material shows difference in grammatical tense. They state that the abstract messages were formulated in the present tense, while the concrete messages were formulated in the past tense. Indeed, it is actually known that tense covaries with abstract and concrete terms respectively (Reitsma-van Rooijen, et al., 2007). Because of this, these researchers state it is a logical consequence that 'tense' can be used as an indicator for the level of concreteness. This was, however, never proven.

2.2.2 Conceptual categories

To conclude the literature study and to answer the first research question, in Figure 2 a summary is presented including all the discovered categories in verbal teacher communication that might be related with the interpersonal teacher-class relationship. The schedule presents a framework based on the studies of Thompson and Muntigl (2008) and Stiles (1978) which specifically focused on interpersonal language in direct communication, combined with the mentioned issues identified in the other studies about the description of interpersonal communication.

Additionally, in the literature study it was possible to identify conceptual categories rather than specific lexical markers. In the second phase is examined if and how the categories can be related to the interpersonal teacher-class relationship. Accordingly, in the second phase an observation schedule will be presented involving the relating categories.

In Figure 2 the categories are separated by different colours. Categories concerning direct communication involve the concentrated coloured cells, where the categories concerning verbal description of interpersonal communication involve the translucent cells.
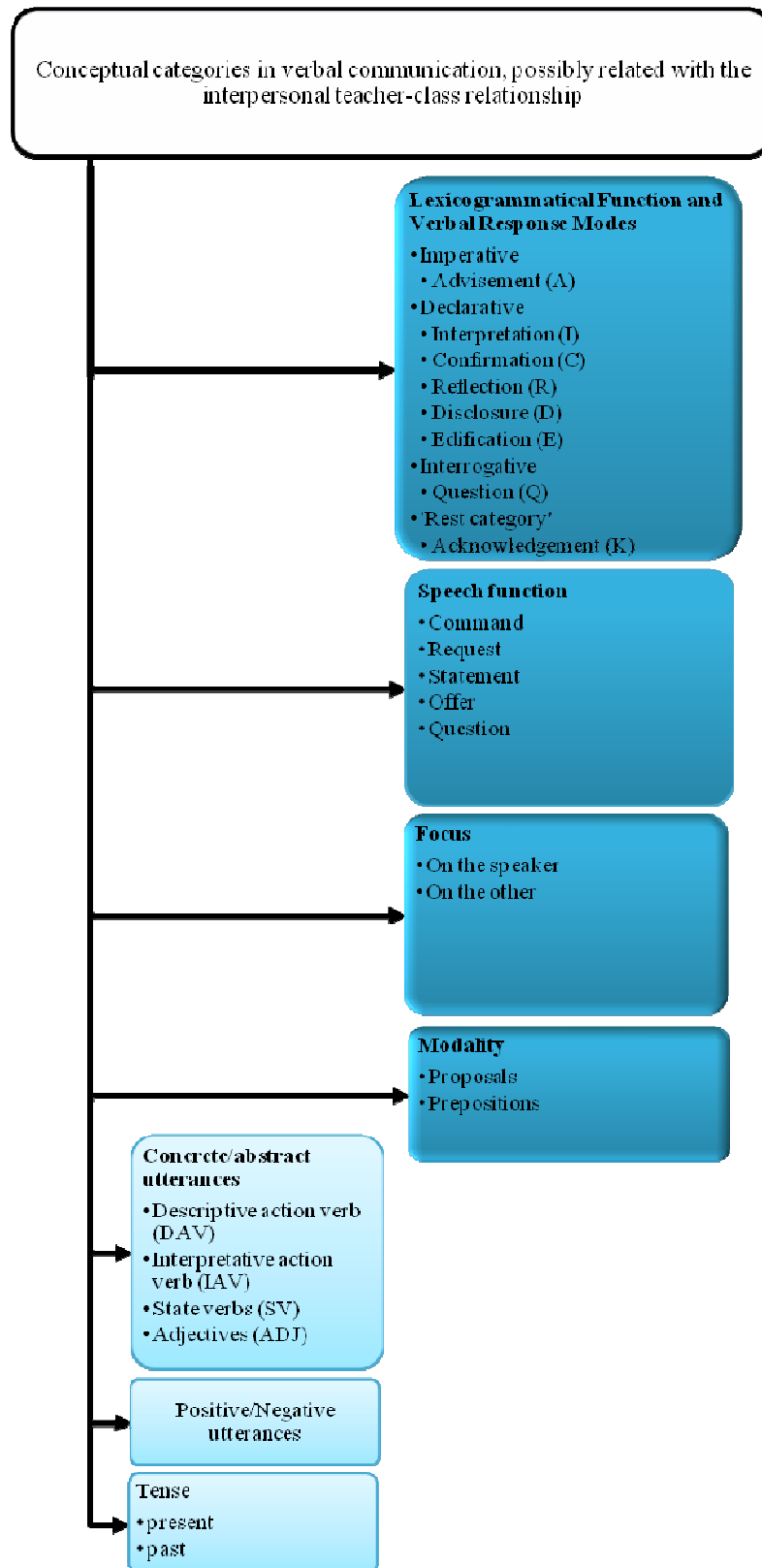
Figure 2. Summary of the discovered categories in verbal communication that might be related with the interpersonal teacher-class relationship.

3.   Part II: testing the conceptual categories

3.1   Method part II

3.1.1 Design and procedure

The second part of the study contained the testing of the discovered categories in verbal teacher communication. To test this, a case study was done on the basis of exiting data gathered by Mainhard (2009) for a PhD-study to time consistency in teacher-class relationships. The data included videotaped communication in class situation between a teacher and class.
The situation took place in secondary education in the Netherlands, in the first lesson of the school year. Mainhard (2009) chose to record lessons at the beginning of the school year, because in that period the teacher and class were unacquainted with each other (Mainhard, 2009).

3.1.2 Participants

Two extreme cases were selected on the basis of eight different cases of 'interpersonal teacher profiles' (Brekelmans, 1989; Brekelmans, Levy, & Rodriguez 1993, as cited in Mainhard, 2009). In Figure 3 the eight cases were presented. One of the teachers was profiled as Drudging (Dr) which was an unfavourable profile in interpersonal terms. The other teacher was profiled as Tolerant-Authorative (TA) which was, instead, a favourable profile.
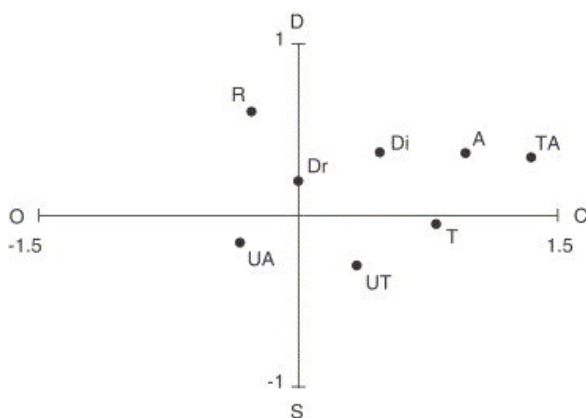

Figure 3. Principle points of the eight cases of interpersonal valence, Proximity is shown on the X-axis and Influence on the Y-axis (Wubbels, & Brekelmans, 2005).

Note. The eight different cases of patterns of interpersonal relationships are: Authoritative (A), Directive (Di), Drudging (Dr), Tolerant (T), Repressive (R), Tolerant/Authoritative (TA), Uncertain/Aggressive (UA) and Uncertain/Tolerant (UT).

Combining results from Figures 1 and 3, it is shown that a TA-teacher scored high on the Proximity-axis in the Model of Interpersonal Teacher Behavior, and low on the Influence-axis.

The TA-teacher was female and she taught History lessons to a class consisting of 20-30 first grade students, in the age of eleven to twelve years old. She taught the class twice a week. The videotaped lesson of this teacher case included 820 utterances, that existed of both teacher and student utterances.

The Dr-teacher, on the other hand, scored low on Proximity-axis (Mainhard, 2009). This teacher was male and taught Physics to a class consisting of 20-30 third grade students, in the age of thirteen to fourteen years old. He taught the class once a week, due to a problems with teacher occupation at the school. The videotaped lesson of the DR-teacher included 388 utterances, even so existing of both teacher and student utterances.

The amount of utterances included in data differed between the two teacher cases. Nevertheless, it was chosen to examine the complete lessons because both teachers had a similar percentage of utterances (Dr-case 86% and TA-teacher 87%) on the total number of utterances in the lesson.

3.1.2 Instruments

Observation schedule presenting categories

The first instrument used was the observation schedule presented in Figure 4. This Figure presented which of the conceptual categories presented in Figure 2 were tested. Due to the time schedule it was not possible to examine all of the categories, shown in Figure 2. Accordingly, the analysis focused on the variables found in studies about direct interaction (excluded from the category 'Modal Resource') combined with a few of the variables found in the studies about the description of interpersonal communication.
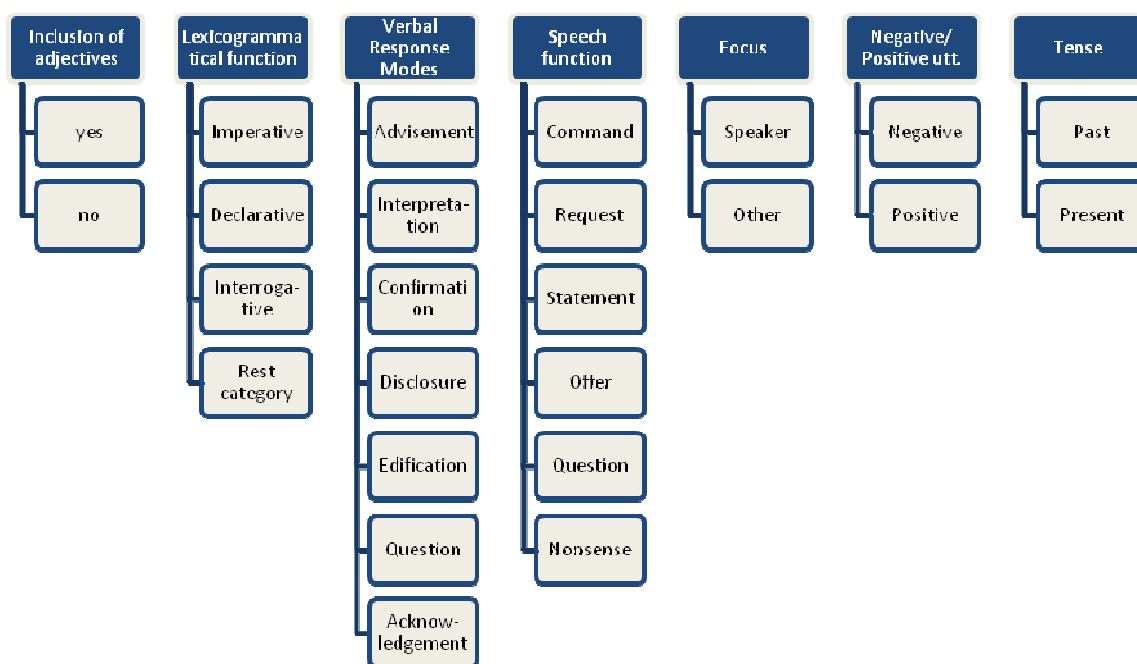

Figure 4. Observation schedule presenting the tested categories for analysing verbal teacher communication, provided with the sub-categories for scoring utterances.

It should be noted that the category 'Speech Function' includes two extra sub-categories, compared to the Speech Functions mentioned by Thompson and Muntigl (2008). Two sub-categories were added, because it was, first, noticed that both teachers used utterances in which no Speech Function was implied. For example, utterances like "*Well...*[Nou…]"(utterance 733 of the TA-teacher data file). These utterances were called 'nonsense utterances', according to the definition of 'Nonsense Dialogue Acts' by Erkens and Janssen (2008).

Second, it was noticed that both teachers used Requests that were in fact open questions, rather than a request. Therefore, a specific sub-category for these open questions was added: Questions.

The categories in verbal teacher communication were compared with two other scoring systems. Therefore, two other instruments were used.

MEPA

To test the categories on the data, the computer programme MEPA was used ('Multiple Episode Protocol Analysis', designed by Erkens, Jaspers, Prangsma, & Kanselaar, 2005). MEPA was capable of analysing verbal (and nonverbal) observational data automatically, by given characteristic words showing the function of an utterance. In MEPA filters were created to categorise utterances (also called 'Dialogue Acts' by Erkens et al., 2005). In the current study the filter by Erkens and Janssen (2008) was used, which contained five main functions of communication. Within these functions 29 dialogue acts were included. Beside the coding based on the categories included in the observation schedule, both data files were coded based on the Dialogue Acts by MEPA as well.

State Space Grids

As mentioned, verbal teacher utterances were compared with State Space Grid-scores (SSG-scores). A SSG-graph showed teacher-class communication by using a dynamic systems methodology (Lewis et al. 1999, as cited in Mainhard, 2009). The SSG-technique shows behavioural observations in a way that was possible to define the state space of a system and its structure (Mainhard, 2009). In a SSG twenty five combinations of interpersonal statuses were possible to represent a complete state space of a teacher-class system (Mainhard, 2009). This meant that both the class and teacher perspective were combined in one structure (Mainhard, 2009). However, one structure presented solely one dimension. In Figure 5 an example of a State Space Grid is presented concerning the dimension 'Influence'.
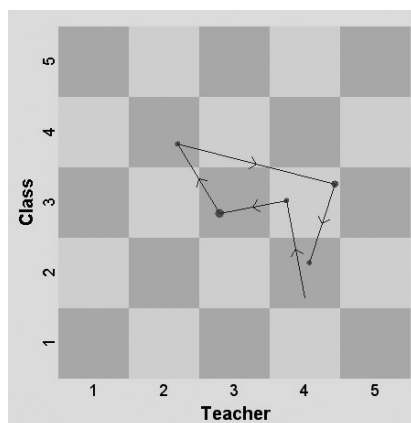

Figure 5. Example of a State Space Grid in terms of interpersonal influence (Mainhard, 2009). The line represented the change in dyadic Influence state in teacher-class communication during three minutes. It started in cell 42 and finally ended also in this cell. The thickness of the dots indicated the duration of a communication (Mainhard, 2009).

The numbers on the X and Y-axis indicated the amount of Influence or Proximity. The higher the score, the more Influence or Proximity was shown. Beside this, the duration of an interpersonal perception in a specific cell was important for interpreting the perception. Mainhard (2009) stated that long durations and frequent calls of a trajectory on a specific cell must be interpreted as "*a sign of an attractor within the state space of a teacher-class system*" (Mainhard, 2009, p.63).

3.1.3 Analysis

Because in this case study a new categories were explored, descriptive statistics presented useful information.

First, both data files were splitted for 'speaker' to compare teacher utterances of both data files. For the Dr-teacher case this resulted in a sum of 333 teacher utterances and 51 utterances of students addressed to the teacher. There were two remaining utterances which included one student utterance addressed to another student and one utterance of the researcher. Additionally, this file included two missing values (2 teacher utterances).

For the TA-teacher case the splitted file resulted in 715 teacher utterances, 71 student utterances addressed to the teacher and 32 student utterances addressed to another student. In this file included three missing values (2 teacher utterances and 1 student utterance).

In the splitted data files, descriptive statistics of the categories were compared to examine which differences existed in the verbal communication of both teacher cases and if, perhaps, categories were used prominently by one of the teachers.

In addition, a cross table was used to compare the Dialogue Acts from Erkens and Janssen (2008) and the category 'Speech Function' (Thompson and Muntigl, 2008) category included in the observation schedule. It was examined if both encodings correspond and, thus, if the already automated coding by MEPA could be used to score verbal teacher utterances interpersonally. The category Speech Function was used to compare with the Dialogue Acts, because this category corresponded best to the Dialogue Acts, compared with the other categories.

Before comparing Speech Functions and Dialogue Acts, in Table 6 an analysis was presented to show which sub-categories, hypothetically, corresponded. In advance, both encodings seemed not to correspond very well. The Dialogue Act coding seemed to be far more detailed compared with the Speech Functions. A lot of Dialogue Acts were expected to be coded as a 'Statements Speech Function'. Adversely, the sub-category 'offer' seemed not to correspond to any of the Dialogue Acts. The few Speech Functions which were expected to correspond with a Dialogue Act sub-category were defined in Table 6 by capital letters.

Regarding differences between the two teacher cases it was, hypothetically, expected that there existed a difference in the used Dialogue Acts. In the Dialogue Act category more 'focus' ('imperatives') were expected for the Dr-teacher case compared to the TA-teacher. Instead, hypothetically, in the TA-teacher case more Dialogue Acts in the Communication Functions of 'Responsives' and 'Informatives' were expected, because these categories seemed to have the possibility to make students comfortable (by positive evaluation, for example), and to have much interaction with students. Hence, these characteristics seemed, hypothetically, to fit to a Dr- or TA-profiled teacher.

Finally, striking differences between the two teacher cases found in the tested categories were compared with the State Space Grids for both Influence and Proximity. First the two teacher cases are compared among the State Space Grids for Influence and Proximity. Second, the State Space Grids were compared with the categories of the observation schedule that showed striking differences between the two teacher cases. In this way, it was for both cases examined if verbal teacher communication could be related to the interpersonal teacher-class relationship.

Table 6.

Hypothetical agreements between the Speech Functions presented by Thompson and Muntigl (2008) and the 29 Dialogue Acts by Erkens and Janssen (2008).

Speech Functions → **Dialogue Acts theory** ↓			Command	Request	Statement	Offer	Question	Nonsense
Communicative function	**Dialogue Acts**	**Specifications**						
Argumentatives	Reason				x			
	Contra				x			
	Conditional				x			
	Then				x			
	Disjunctive				x			
	Conclusion				x			
	Elaboration				x			
Responsives	Confirmation				x			
	Deny				x			
	Acception				x			
	Reply to an				x			
	Elicitative	Confirm						
		Deny			x			
		Accept			x			
		Statement			x			
		Performative			x			
Informatives	Performative				x			
	Evaluation	Neutral			x			
		Positive			x			
		Negative			x			
Elicitatives	Statement				**X**			
	Action				X			
	Social				X			
		Nonsense						X
	Question	Verify					X	
		Set					X	
		Open					X	
	Proposal	Action		X				
	Action			X				
Imperative	Focus		X					

Note. High expected corresponding sub-categories are coded with a capital letter. Lower expected corresponding sub-categories are coded with a normal letter.

3.2 Results Part II

3.2.1   Comparison teacher cases within discovered categories

In Table 7 to 13 the frequencies and percentages in every category are presented for both teacher cases. Striking results are bold shaded.

Table 7

Distributions of the variable 'adjective included' in the utterances for both teacher-cases (Dr, N=335 utterances; TA, N=717 utterances).

Adjective included (yes or no)	DR-teacher case		TA-teacher case	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
Yes	**293**	87.5	**659**	91.9
No	40	11.9	56	7.8
Missing values	2	0.6	2	0.3

Table 8

Distribution of Lexicogrammatical Function in teacher utterances for both teacher-cases (Dr, N=335 utterances; TA, N=717 utterances).

Lexicogrammatical function	DR-teacher case		TA-teacher case	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
Imperative	**43**	12.8	**116**	16.2
Declarative	**214**	63.9	**431**	60.1
Interrogative	54	16.1	88	12.3
'Rest category'	22	6.6	80	11.2
Missing values	2	0.3	2	0.3

Table 9

Distributions of 'focus' in teacher utterances for both teacher-cases (Dr, N=335 utterances; TA, N=717 utterances).

Focus	DR-teacher case		TA-teacher case	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
Speaker	**174**	51.9	**421**	58.7
Other	**159**	47.5	**294**	41.0
Missing values	2	0.6	2	0.3

Table 10

Distribution of Verbal Response Modes in teacher utterances for both teacher-cases (Dr, N=335 utterances; TA, N=717 utterances).

Verbal Response Modes (VRM)	DR-teacher case		TA-teacher case	
	Frequency	Percent (%)	Frequency	Percent (%)
Advisement	**43**	12.8	**115**	16.0
Interpretation	75	22.4	72	10.0
Confirmation	**26**	7.8	**66**	9.2
Reflection	**13**	3.9	**41**	5.7
Disclosure	13	3.9	46	6.4
Edification	**87**	26.0	**207**	28.9
Question	**54**	16.1	**88**	12.3
Acknowledgement	**22**	6.6	**80**	11.2
Missing values	2	0.6	2	0.3

Table 11

Distribution of Speech Function in teacher utterances for both teacher-cases (Dr, N=335 utterances; TA, N=717 utterances).

Speech function	DR-teacher case		TA-teacher case	
	Frequency	Percent (%)	Frequency	Percent (%)
Command	33	9.9	93	13.0
Request	33	9.9	80	11.2
Statement	**212**	63.3	**390**	54.4
Offer	9	2.7	12	1.7
Question	40	11.9	73	10.2
Nonsense	**6**	1.8	**66**	9.2
Missing values	2	0.6	3	0.4

Table 12

Distributions of 'negative and positive utterances' in teacher utterances for both teacher-cases (Dr, N=335 utterances; TA, N=717 utterances).

Negative/ positive utterance	DR-teacher case		TA-teacher case	
	Frequency	Percent (%)	Frequency	Percent (%)
Negative	33	9.9	54	7.5
Positive	**300**	89.6	**661**	92.2
Missing values	2	0.6	2	0.3

Table 13

Distributions of 'tense' in teacher utterances for both teacher-cases (Dr, N=335 utterances; TA, N=717 utterances).

Tense	DR-teacher case		TA-teacher case	
	Frequency	**Percent (%)**	**Frequency**	**Percent (%)**
Past tense	19	5.7	24	3.3
Present tense	**277**	82.7	**494**	68.9
No tense included	**37**	11.0	**197**	27.5
Missing values	2	0.6	2	0.3

Comparing both teacher cases for all the categories relatively, solely minor differences are noticed. When comparing frequencies, however, striking differences between the teacher cases are observed. The most striking results are explained below.

A first striking difference is that the TA-teacher uses much more utterances to express herself (N=717), compared to the Dr-teacher (N=335). The great amount of utterances by the TA-teacher might be declared by the use of many 'nonsense' utterances by the TA-teacher (see Table 11) and, thus, by the great use of utterances in which no tense is included (see Table 13), compared to the Dr-teacher. In addition, in the TA-teacher case much more adjectives are included (659 adjectives), compared to the Dr-teacher (293 adjectives). Together, these results indicates the use of many splitted utterances by the TA-teacher, which again, results in the great amount of total utterances. In addition, it is noticed that the TA-teacher repeats her verbal utterances many times, where the Dr-teacher does not. Consider the following utterances in which the TA-teacher is giving homework for the next lesson:

> *"prepare page fifteen* [maken bladzijde vijftien]"
> *"question one, two, four and five* [vraag een, twee, vier en vijf]"
> *"prepare* [maken]"
> *"page fifteen* [bladzijde vijftien]"
> *"question one, two, four and five* [vraag een, twee, vier en vijf]"
> (utterances 574-582 TA-teacher file)
> …
> *"page fifteen* [bladzijde vijftien]"
> *"question one, two, four and five* [vraag een, twee, vier en vijf]"
> (utterances 596-600 TA-teacher file)

Such repeated utterances do not appear in the Dr-teacher case. Hence, also this difference might declare the great difference in expressed utterances between the two teachers.

A second striking result can be found in the Lexicogrammatical Function-category, together with results in the Verbal Response Modes-category. In the Lexicogrammatical Function-category it is observed that the TA-teacher uses twice as much Declarative (431) and Imperative (116) utterances compared to the Dr-teacher (respectively 214 and 43 utterances, see Table 8 en 10). Hypothetically, the use of Imperatives by the TA-teacher might indicate an 'Authorative' interpersonal profile, which might result in a lot of perceived Influence. To analyse if this indeed is the case in Paragraph 3.2.3, the use of Imperatives is compared with the State Space Grids for Influence.

Concerning the Verbal Response Modes, the upper described results in the Lexicogrammatical category are translated into twice as much use of Advisements (115), Interpretations (66) and Edification-utterances (207) by the TA-teacher compared to the Dr-teacher (respectively 43 Advisements, 26 Interpretations and 87 Edifications). In addition, the TA-

teacher uses much more Questions within the VRM-category (88 Questions) compared to the Dr-teacher (54 Questions) as presented in Table 10.

These differences might be declared by the amount of utterances, since the TA-teacher uses twice as much utterances to express herself, compared to the Dr-teacher. However, it might be that these differences can be related with the interpersonal teacher-class relationship. If this might be the case, is examined in Paragraph 3.2.3.

A final striking result which might be related with the interpersonal relationship, is the category 'Focus'. It is observed that within the teacher cases the TA-teacher uses far more utterances focused on the herself (as speaker) than to the students (the others). In the Dr-teacher case, it opposite is shown. Although this result is relative rather than absolute, it is striking. It is, hypothetically, expected that this focus in the utterances of the teachers works the other way around, because the TA-teacher – in profile – has a more favourable perceived interpersonal relationship with the students which might indicate that she focuses on her students.

In Paragraph 3.2.3 is examined if the presented differences can be related with the interpersonal teacher-class relationship.

3.2.2 Comparison Dialogue Acts and Speech Functions

As already mentioned, the category 'Speech Function' is compared to 29 Dialogue Acts to observe whether these already automated Acts in MEPA can replace the category Speech Function suggested in this study, or not. In Table 14 and 15 these the comparison is presented for both teachers cases.

Table 14

Cross table showing frequencies in Speech Functions compared to the coded Dialogue Acts in the Dr-teacher utterances (N= 333 utterances).

Speech Functions	Coded Dialogue Acts by MEPA			
	"Then" (argumentatives)	"Positive Evaluation"	"Statements"	Total
Command	6	0	27	33
Request	11	0	22	33
Statement	33	1	178	212
Offer	0	0	9	9
Question	4	0	36	40
Nonsense	0	0	6	6
Total	54	1	278	333

Note. Effect size W (contingency coefficient) was measured on a value of .19 (Cohen, 1988).

Table 15

Cross table showing frequencies in Speech Functions compared to the coded Dialogue Acts in the TA-teacher utterances (N= 715 utterances).

Speech Functions	Coded Dialogue Acts by MEPA		
	"Then" (argumentatives)	"Statements"	Total
Command	12	81	93
Request	12	68	80
Statement	44	346	390
Offer	1	11	12
Question	1	72	73
Nonsense	0	67	67
Total	70	645	715

Note. Effect size W (contingency coefficient) was measured on a value of .16 (Cohen, 1988)

Due to the low effect sizes of both teacher cases only a small relation (Cohen, 1988) can be observed between the Dialogue Acts and Speech Functions. This poor association might be declared by the fact that just a few of the Dialogue Acts were coded in both teacher cases, which itself is an unexpected result. In both teacher cases utterances are predominantly coded as 'Statements Dialogue Acts' and these Statements are spread across all the Speech Functions. This implies, against all odds, that the Dialogue Acts score utterances imprecisely and that the Speech Functions, instead, code more precisely.

Regarding the differences in the used Dialogue Acts for both teacher cases it is observed that the distribution of Dialogue Acts across the Speech Functions seem quite similar for both teacher cases, which, again, is an unexpected result. Also this result might be declared by the fact that only two (or three) of the 29 Dialogue Acts are coded in both data files.

However, one result regarding the Statements can be found as positive. As expected, the 'Statement Speech Function' agrees well with the 'Statement Dialogue Act'. In the Dr-teacher case 178 (84%) of the 212 utterances coded as 'Statement Speech Functions' are also coded as a 'Statement Dialogue Act'. In the TA-teacher 346 (89%) of the 390 utterances are coded similarly. This means that, despite the poor overall relation, the 'Statement Dialogue Act' – and its lexical markers for recognizing this sub-category – can be used to score 'Statement Speech Function'.

3.2.3   Comparison categories and State Space Grids

To examine whether the verbal teacher communication can be related to the interpersonal teacher-class relationship, in this section the striking differences presented in Paragraph 3.2.1 are compared with the State Space Grids for both Influence and Proximity, as presented in Figure 6.
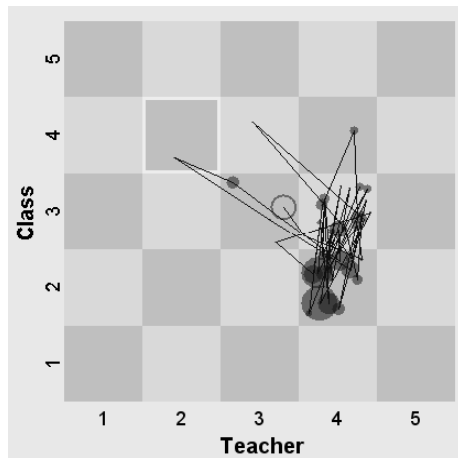
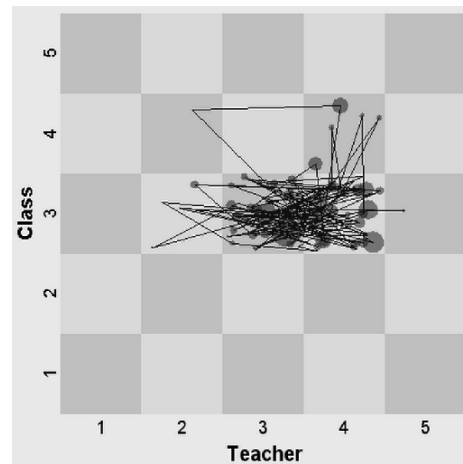*Figure 6a.* State Space Grid representing the **Influence** of the TA-teacher case.

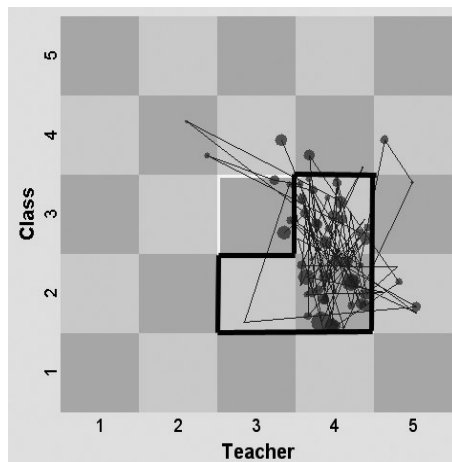*Figure 6c.* State Space Grid representing the **Proximity** of the TA-teacher case.

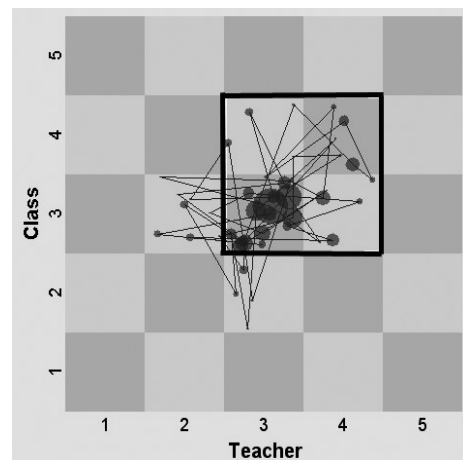*Figure 6b.* State Space Grid representing the **Influence** of the DR-teacher case. (Mainhard, 2009)

Figure 6d. State Space Grid representing the **Proximity** of the Dr-teacher case. (Mainhard, 2009)

Note. The encircled cells in Figures 6b and 6d define the favourable interaction area. These definitions also counts for Figures 6a and 6c. Figures 6a and 6c were never used for previous analysis, therefore, no encircled cell in these figures were presented.

When comparing Figures 6a, b, c, and d, over all, it can be concluded that both teacher cases are located in the favourable interpersonal area for Influence. The TA-teacher is, besides, also located in the favourable cells for Proximity, where the Dr-teacher shows a less favourable Proximity pattern. In addition, it is observed that the TA-teacher shows a more consistent Influence pattern than the Dr-teacher. Comparing Figures 6c and 6d, it can be stated that this difference appeared even more for Proximity. It is interesting to examine whether the verbal teacher utterances can be related to these consistency differences in interpersonal relationship.

A first striking result that might be related with these differences, is located in the VRM-category and includes the quantity of interaction the teachers have with their students. The amount of utterances the TA-teacher and, more specifically, the amount of questions this teacher uses (88 questions), compared to the Dr-teacher (54 questions) might cause more interaction during the lesson. When considering how both teachers 'use' these questions this difference is illustrated even more. It is observed that the Dr-teacher answers most questions he asks to the students by himself. Consequently, this teacher asks questions about things that he *assumes* to be unclear, rather than knowing if this actually is the case. This way, the Dr-

teacher does not involve the students in the lesson. The TA-teacher, instead, asks questions to the students and waits for the answer. Consider the following Questions by the TA-teacher:

"Who has studied last year already something about prehistory?" [wie is er vorig jaar al uh heeft iets gedaan over de prehistorie?]" (utterance 435 of the TA-teacher data file)

"is it clear to everybody what belongs to what?" [en is het duidelijk wat bij wat hoort?] (utterance 304 of the TA-teacher data file)

These questions include an actual 'check' by the TA-teacher to see if every student understand what she is saying and to indicate the knowledge level of the students. Students might feel involved in the lesson and feel free to ask questions and to indicate when they do not understand something. This might result in greater interaction which again causes a more consistent interpersonal relationship.

A second striking result presented in Paragraph 3.2.1 which might be related with the consistency differences in interpersonal relationship, is located in the category 'Focus'. As presented, within the TA-teacher case, the teacher uses far more utterances focused on herself, rather than focused on the students. In the Dr-teacher case it was examined just the opposite, although the differences in this case were smaller (see Table 9). Relating this result to the presented observation that the TA-teacher shows a more consistent interpersonal pattern, it might be the case that a focus on the speaker self, causes a more consistent and favourable interpersonal pattern for both Influence and Proximity.

This result might be related with the use of Questions described above and with the use of much Edifications compared with the Dr-teacher (see Table 10).

By asking many questions to students and give them the opportunity to answer and to ask questions back when something is unclear, the TA-teacher focuses on herself by not expressing expectations about the students. In fact, the same happens by expressing Edifications, because this Verbal Response Mode includes utterances with 'objective information', and without any expectation or evaluation implied (see Table 5). Both the great use of Questions and Edifications might cause a consistent interpersonal pattern for both Influence and Proximity.

A combination of these observations might declare a more consistent interpersonal interaction in the TA-teacher case for both Influence and Proximity (shown in Figures 6a and 6c), compared to the Dr-teacher case (shown in Figures 6b and 6d).

Nevertheless, a striking result that not seem to be related with the interpersonal relationship, includes the use of Imperatives in the Lexicogrammatical Function category. As presented in Paragraph 3.1.2, the TA-teacher uses far more Imperative utterances compared to the Dr-teacher (see Table 8). As presented in Figure 6, however, both teacher-cases can predominantly be located in the same cells for Influence which might indicate that the use of Imperatives does not determine the perceived Influence by students.

3.3   Conclusion and final categories

Over all, it was concluded that much differences were observed in verbal teacher communication between the two teacher cases. Some differences might be declared by the fact that the TA-teacher used far more utterances to express herself, compared to the Dr-teacher. However, a few sub-categories might be related with the interpersonal teacher-class relationship. The second research question, therefore, was answered by presenting in Figure 7 in which the final observation schedule – including the observed relating (sub-)categories – was shown.
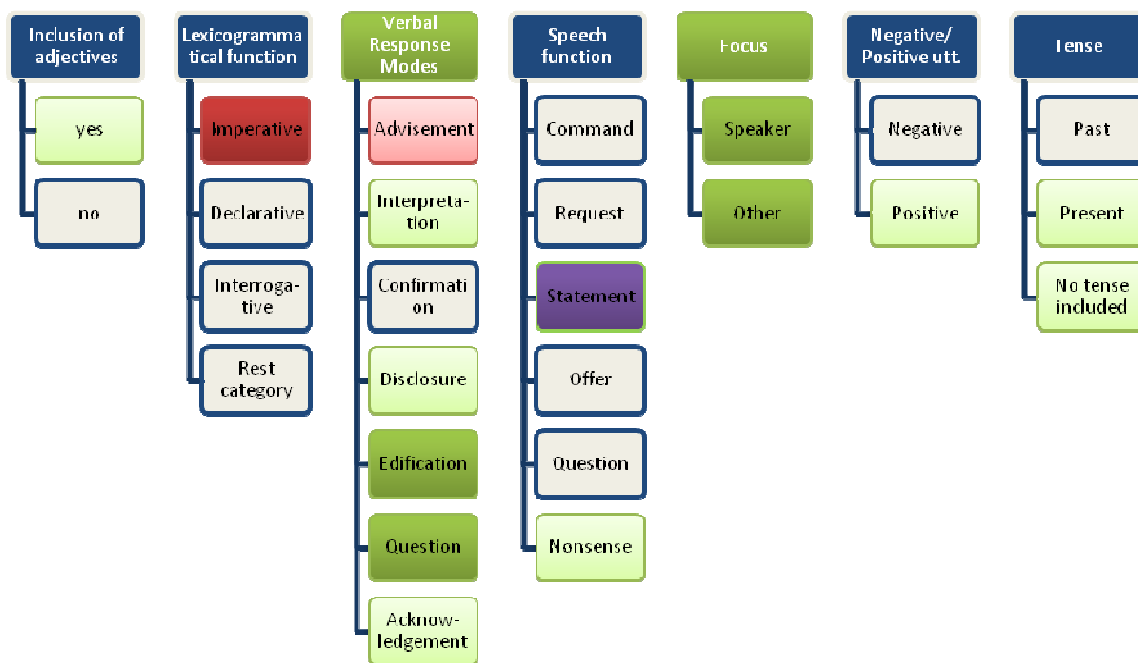
Figure 7. Observation schedule including the final categories in verbal teacher communication related to the interpersonal teacher-class relationship, or not.

Note. Concentrated green coloured cells indicated (sub-)categories that seemed to be related with interpersonal teacher-class relationship. Translucent green coloured cells might also be related, due to differences shown between the teacher cases and due to their relation with concentrated green cells. These sub-categories were, however, not specifically explained in this study. Red coloured seemed not to be related with the interpersonal teacher-class relationship. The violet coloured cell indicated the sub-category 'Statement Speech Function' that was observed to be associated with the 'Statement Dialogue Act'. This cell was also green defined, because also a possible relationship with the interpersonal teacher-class relationship was observed. Blue shaped cells indicated categories to which no decision was presented.

Presented in Figure 7, solely the sub-categories 'Edification' and 'Question' in the category Verbal Response Modes and 'Focus' are observed to be related with the interpersonal teacher-class relationship, because these categories might declare the more consistent interpersonal pattern of the TA-teacher and the more inconsistent pattern of the Dr-teacher. In addition, the use of much more utterances by the TA-teacher compared to the Dr-teacher also might indicate the interpersonal relationship. Not all the possible relations are discussed. Therefore, in Figure 7 also possible relating (sub-)categories are included (translucent green coloured cells) based on differences between the two teacher cases.

Besides, only the 'Statement Speech Function' seemed to be related with the lexical markers included in the already automated coded Statements Dialogue Act in MEPA. Over all, no association was found in both teacher cases.

It should be stressed that this study functioned as a stair in relating communication and the interpersonal teacher-class relationship. After this study it is obvious that this relation certainly exists.

4. Discussion

The current study discovered categories in verbal teacher communication. Further research must be conducted to identify more relations within the discovered categories, to define lexical markers that identify sub-categories and to explore more possible categories in communication that might be related with interpersonal teacher-class relationship. Conducting more research in this domain and completing the presented observation schedule in Figure 7 for analysing verbal teacher communication, make it possible to improve professionalization projects for starting teachers. The categories compared with lexical markers can show teachers the influence of communication to the relationship they have with their students, and therefore, can show them the right way to talk in class. In future research the following recommendations need to be addressed.

Firstly, it was recommended to analyse different lessons than the first lesson of the school year. This first lesson involved in both cases a great monologue by the teacher about the content of the subject and instruction how to work the rest of the year. Mainhard's reason to analyse this first lesson was precisely evident, but to analyse verbal communication it is desirable to include a more average lesson to better examine the communication between teacher class.

Secondly, it was recommended to examine in future if the included categories Verbal Response Modes and Lexicogrammatical functions cover the complete verbal teacher communication or that it was desirable to delete, complement or split up categories to the schedule. This was recommended because the literature on which these categories were based was not specifically focused on teacher-class communication.

Third, and most important, it was recommended to analyse in future research both student- and teacher utterances. Because both concepts 'communication' and a 'relation' imply that there are at least two persons involved. Due to the time schedule in this study solely the teacher-utterances were analysed. Strictly, no relationship can be described only based on the results of teacher utterances. Therefore, also student-utterances need to be analysed in future.

Evaluation this study two comments were mentioned. One comment is that this study only included two teacher cases. In future research more teacher cases should be examined to prove the relation between verbal teacher communication and interpersonal teacher-class relationship.

And finally, in future research different persons should code and check the data (for example, in accordance with Stiles' coding method, 1978), to increase the interrater reliability and to meet the objectivity issue ever concerned in the coding procedure of verbal data.

10.236 words

References

Baarda, D.B., & Goede, M.P.M. de (2006). *Basisboek methoden en technieken. Handleiding voor het opzetten en uitvoeren van kwantitatief onderzoek* [Basic book for methods and statistics. Manual for the design and implementation of quantitative research] (4th ed.). Groningen: Wolters-Noordhoff.

Bem, D.J. (1995). Writing a review article for Psychological Bulletin. *Psychological Bulletin, 2,* 172-177.

Brok, P. den, Brekelmans, M., & Wubbels, T. (2004). Interpersonal Teacher Behaviour and Student Outcomes. *School Effectiveness and School Improvement, 15,* 407-442.

Cohen, J. (1988). *Statistical power analysis for the behavioural sciences* (2nd ed.). Hillsdale, New Jersey: Lawrence Erlbaum Associates.

Coulthard, M., & Montgomery, M. (1981). *Studies in Discourse Analysis.* London: Routledge & Kegan Paul.

Erkens , G. , Jaspers, J.G.M., Prangsma, M., & Kanselaar, G. (2005). Coordination process in computer supported collaborative learning. *Computers in Human Behavior, 21*, 463-486.

Erkens, G., & Janssen, J. (2008). Automatic coding of dialogue acts in collaboration protocols. *Computer-Supported Collaborative Learning. 3,* 447-470. doi: 10.1007/s11412-008-9052-6

Fiske, S.T., Cuddy, A.J.C., & Glick, P. (2007). Universal dimensions of social cognition: warmth and competence. *Trends in cognitive sciences, 11,* 77-83.

Houtkoop, H., & Koole, T. (2005). *Taal in Actie. Hoe mensen communiceren met taal* [Language in Action. How people communicate with language] (2nd ed.). Bussum: Coutinho.

Mainhard, T. (2009). *Time consistency in Teacher-Class relationships.* Unpublished doctoral dissertation. Utrecht University – The Netherlands.

Mange, J., Lepastourel, N., & Georget, P. (2009). Is your language a social clue? Lexical markers and social identity. *Journal of Language and Social Psychology, 28,* 364-380.

Martin, A.J., & Dowson (2009). Interpersonal relationships, motivation, engagement and achievement: Yields for theory, current issues and educational practice. *Review of Educational Research, 79,* 327-365.

Petegem, K. van, Aelterman, A., Rosseel, Y., & Creemers, B. (2007). Student perception as moderator for student wellbeing. *Social Indicators Research, 83,* 447-463.

Petegem, K. van, Aelterman, A., Keer, H. van, & Rosseel, Y. (2008). The influence of student characteristics and interpersonal teacher behaviour in the classroom on student's wellbeing. *Social Indicators Research, 85,* 279-291.

Raad, B. de (1995). The psychological approach to the structure of interpersonal traits. *European Journal of Personality, 9,* 89-102.

Raad, B. de (1999). Interpersonal lexicon: Structural Evidence from two independently constructed verb-based taxonomies. *European Journal of Psychological Assessment, 15,* 181-195.

Reitsma - Rooijen, M. van, Semin, G.R., & Leeuwen, E. van (2007). The effect of linguistic abstraction on interpersonal distance. *European Journal of Social Psychology, 37,* 817-823.

Robson, C. (2002). *Real World Research* (2nd ed.). Oxford UK: Blackwell Publishers Ltd.

Schiffrin, D. (1987). *Discourse markers.* Cambridge: Cambridge University Press.

Semin, G.R. (2008). Language Puzzels. A prospective retrospective on the Linguistic Category Model. *Journal of Language and Social Psychology, 27*, 197-209

Semin, G.R., & Fiedler, K. (1989). Relocating attributional phenomena within a language-cognition interface: the case of actors' and observers' perspective. *European Journal of Social Psychology, 19*, 491-508.

Semin, G.R., Gil de Montes, L., & Valencia, J.F. (2003). Communication constraints on the linguistic intergroup bias. *Journal of Experimental Social Psychology, 39,* 142-148.

Thompson, G., & Muntigl, P. (2008). Systemic Functional Linguistics: an interpersonal perspective. In: Antos, G., &

Ventola, E. (Eds.). *Handbook of interpersonal communication* (pp. 107-132). The Hague: Mounton de Gruyter.

Wang, H. (2009). Nonverbal communication and the effect on communication. *Asian Social Science, 5,* 155-159.

Wigboldus, D.H.J., Semin, G.R., & Spears, R. (2006). Communicating expectancies about others. *European Journal of Social Psychology, 36,* 815-824.

Wubbels, T. & Brekelmans, M. (2005). Two decades of research on teacher-student relationship in class. *International Journal of Educational Research, 43,* 6-24.

Wubbels, T., Brekelmans, M., Tartwijk, J. van, & Brok, P. den (2005). An interpersonal perspective on classroom management in secondary classrooms in the Netherlands. In Evertson, C., & Weinstein, C. (Eds.). *Handbook of classroom management: research, practice, and contemporary issues* (pp. 1161–1192). Mahawn: Lawrence Erlbaum Associates.